

**NINTH MEETING OF THE ASIA PACIFIC ACCIDENT INVESTIGATION  
GROUP (APAC-AIG/9)**

(27-28 October 2021 on Virtual Platform at 11.00 hrs. Bangkok Time UTC+7)

**Agenda Item 5: Regional Cooperation****EXAMPLE MOU BETWEEN THE SAR SERVICE AND  
THE ACCIDENT INVESTIGATION AUTHORITY**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the possible MOU template between Search and Rescue Authority and Accident Investigation Authority for States to consider to enhance cooperation between national SAR services and national accident investigation authorities.

**1. INTRODUCTION**

1.1 The Asia/Pacific region has been concerned for several years regarding cooperation between national Search and Rescue (SAR) services and national accident investigation authorities. A finding from the Malaysian Flight MH 370 incident noted the lack of clearly defined division of responsibilities between SAR functions in ICAO Annex 12 and accident investigation ‘search and recovery’ function in ICAO Annex 13. The Indonesian accident investigation of Indonesia AirAsia Flight QZ 8501 identified the issue of “The accident investigation should not complicate SAR efforts.” Informal talks in recent years have not found any form of agreement or other written arrangement specifying the coordination between a national SAR service and the national accident investigation authority. The United States recently finalized text for such a memorandum of understanding (MOU). **Attachment A** to this paper provides the MOU as an example.

**2. DISCUSSION**

2.1 In addition to the lessons learned from aviation incidents such as those above, cooperation between the SAR service and the accident investigation authority has been discussed in ICAO documents such as:

- Asia/Pacific SAR Plan Version 2.2, paragraph 7.15 *SAR Promotion*:  
*All States should conduct SAR promotional programs (e.g. Seminars, Workshops and public safety campaigns) to:*
  - e) *enhance cooperation between SAR services and:*
    - vi. *accident investigation agencies.*
- Global Aeronautical Distress and Safety System (GADSS) Concept of Operations, Chapter 2 High Level Objectives of the GADSS: *Improvement in the transition of an event from ICAO Annex 12 (Search and Rescue) to ICAO Annex 13 (Accident Investigation) responsibility.*

2.2 The U.S. National Transportation Safety Board, as the national accident investigation authority, is an independent U.S. government investigative agency responsible for civil transportation accident investigation. In this role, the NTSB investigates and reports on aviation accidents and incidents, certain types of highway crashes, ship and marine incidents, pipeline incidents, and railroad accidents. When requested, the NTSB will assist the military and foreign governments with accident investigation. The U.S. Coast Guard also has authority to conduct investigations of maritime (vessels) accidents and incidents. An MOU has been in place for many years between the NTSB and U.S. Coast Guard for cooperation and coordination of investigation of maritime vessel accidents. Attachment A to this paper is a new appendix to the existing MOU, and specifically references SAR operations during aviation accidents in the maritime environment.

2.3 Attachment A was presented by USA to the Sixth Meeting of the Asia/Pacific Regional Search and Rescue Working Group (APSAR/WG/6, VTC, 03-06 May 2021). The meeting was informed that the last meeting of the ICAO/International Maritime Organization (IMO) Joint Working Group had canvassed the availability of examples that could be used as a template in the next iteration of the International Aeronautical and Maritime SAR (IAMSAR) Manual, and found that there were none.

2.4 APSAR/WG/6 agreed to a task to develop a template for inclusion initially in the APAC Regional SAR Plan, and subsequently for consideration in the next revision of the IAMSAR Manual, which was scheduled in 2025. Australia, Singapore and USA volunteered to work on developing the template.

2.5 The generic version of the MOU between the SAR Authority and Accident Incident Investigation Authority for inclusion in the updated Regional SAR Plan will be presented to the APSAR/WG/7, tentatively scheduled to be held in May 2022, for consideration and adoption by the meeting.

2.6 The example MOU in Attachment A has some text specific to the United States but the general content could be considered as a framework for a generic template for inclusion in the Asia/Pacific SAR Plan or the International Aeronautical and Maritime SAR (IAMSAR) Manual.

2.7 Another example MOU, a generic coordination procedure between the SAR Authority and Accident Incident Investigation Authority, can be found in **Attachment B**.

2.8 Meeting participants are invited to participate in the next Asia/Pacific Search and Rescue Working Group meeting scheduled in May 2022. The meeting invitation will be circulated to all APAC Administrations and International Organizations by State Letter in due course, and published on the ICAO Asia/Pacific Regional Office meetings web page.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) note the APSAR/WG development work on a template for MOUs between SAR and Accident Investigation authorities; and
- c) discuss any other relevant matters, as appropriate.

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MEMORANDUM OF UNDERSTANDING BETWEEN  
THE NATIONAL TRANSPORTATION SAFETY BOARD (NTSB) AND  
THE UNITED STATES COAST GUARD (USCG)  
REGARDING INVESTIGATIONS  
AND RELATED MATTERS

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**Protocol for Notification and Cooperation during USCG Search and  
Rescue (SAR) Operations during an NTSB Investigation**

1. **Purpose.** This Appendix is provided as a supplement to the MOU between the NTSB and the USCG to address the USCG's obligations under Annex 12 to the Convention on International Civil Aviation (ICAO), Search and Rescue.
2. **General.** The USCG is the United States' lead agency with regard to its obligations in support of Annex 12. It establishes and provides SAR services in accordance with the Annex. Additionally, under the US National SAR Plan, the USCG is the Federal SAR Coordinator for US maritime and aeronautical search and rescue regions (SRR) in the maritime environment. The NTSB and USCG agree that coordination and cooperation between the two agencies promotes efficient and effective SAR operations.
3. **SAR Protocols.** The NTSB leads the investigation of all civil aviation accidents or incidents; and with the participation of appropriate military authorities, each accident involving both military and civil aircraft. 49 USC § 1132. The NTSB also investigates major marine casualties as defined in 49 USC § 1131(E) and this MOU. However, the NTSB does not participate in the search and rescue of persons that are involved in either an aviation or maritime accident. It relies on the USCG and other similarly aligned organizations for SAR.
  - a. When a SAR operation involving an aviation accident or major marine casualty occurs in a US SRR in which the USCG is responsible, the USCG will notify the NTSB. The point of contact for the NTSB is its Response Operations Center (ROC), at (xxx) xxx-xxx.
    - 1) If an NTSB investigator-in-charge has been named, the ROC will inform the investigator of the SAR plan.
    - 2) The ROC may share the investigator-in-charge's contact information with the USCG.
    - 3) The USCG SAR point of contact is the Rescue Coordination Center (RCC) or Rescue Sub Center (RSC) responsible for the coordination of the SAR operation.
  - b. Typically, the NTSB's on-scene investigative work will begin after the SAR operation concludes and the recovery phase begins, but it may begin during the SAR operation on a not-to-interfere basis.

- 1) The NTSB may conduct its investigation of wreckage recovered during a SAR operation. The NTSB investigator-in-charge will coordinate with the RCC or RSC responsible for coordinating the SAR operation to ensure neither agency's work hinders that of the other.
- c. The USCG will provide data and information related to the SAR operation requested by the NTSB for its accident investigation.
- d. The NTSB and USCG will abide by the terms of this MOU and its Appendices related to Public Affairs Coordination for the public disclosure of any information related to the SAR operation.

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**COORDINATION PROCEDURE BETWEEN THE [STATE] RESCUE  
COORDINATION CENTER AND THE [STATE ACCIDENT INVESTIGATION  
AUTHORITY]**

**Purpose**

The purpose of the Coordination Procedure is to document the process for the *[State Accident Investigation Authority (AIA)]* to coordinate, expediently and efficiently, with the *[State Rescue Coordination Centre (RCC)]* for the search and locate of aircraft wreckage and aircraft flight recorders during the search and rescue (SAR) operations.

**Background**

2 The *[State RCC]* is responsible for coordinating, directing and controlling all search and rescue (SAR) operations for civil and military aircraft within the Search and Rescue Region (SRR). The *[State AIA]* is the investigation authority for aviation, accidents or incidents.

3 In the event of a civil aircraft crash within SRR, the *[State RCC]* will be activated to conduct SAR operations. The *[State AIA]* will organise an underwater search for the aircraft wreckage and flight recorders.

4 The aircraft wreckage and aircraft flight recorders will provide essential information leading to the aircraft accident and valuable insights to prevent similar occurrence. It is important for *[the State]*, in discharging its investigation obligation under the Air Navigation Act, to locate the aircraft wreckage and recover the flight recorders, as soon as possible.

5 The underwater locator beacons (ULB), installed on the flight recorders, have a battery life of only 90 days upon activation. It is, therefore, critical for the *[State AIA]* to launch the search for flight recorders, as soon as possible.

6 The *[State RCC]* and *[State AIA]* would need to collaborate and coordinate its efforts to search and locate the flight recorders effectively and efficiently.

7 There are areas which the *[State RCC]* and *[State AIA]* can coordinate in the event of an aircraft crash within the SRR, where the *[State]* is responsible to better discharge the *[State's]* international obligation in SAR operations and accident investigation, respectively.

## **Coordination Procedure**

8 The [State AIA] will request the [State RCC] for information concerning the distress aircraft, including flight details, last radar position, prevailing weather situation and any wreckage/debris recovered by SAR assets. The [State RCC] will provide the requested information, when available.

9 The [State AIA] may request the [State RCC] for a suitable vessel to assist in [State AIA's] operation of underwater search of aircraft wreckage and flight recorders. The [State RCC] will advise the [State AIA] on the vessels assigned for SAR operations. In determining if the vessels are suitable for the [State AIA] to conduct the underwater search for aircraft wreckage and flight recorders, the [State AIA] will seek the [State RCC's] assistance in obtaining information concerning the specifications of and equipment on board the vessels<sup>1</sup>.

10 The [State RCC] may deploy a vessel from the State's military assets or other civilian vessel for SAR operations and to support [State AIA's] operation, subject to the availability of SAR assets and SAR requirements. The [State AIA] will coordinate with the State military in accordance with the established SOP between the [State AIA] and the State Military.

11 Based on the information available, the [State AIA] will inform the [State RCC] of the areas which the [State AIA] intends to search without affecting SAR operations. When flight recorders signal or images of aircraft wreckage is detected, the [State AIA] will inform the [State RCC], accordingly. When there is no information on the likely crash location, the [State RCC] may delegate a search area for the [State AIA] to conduct the detection of flight recorder signal if it does not affect the SAR operations.

12 The [State RCC] to note that there is a need to maintain vessel silence during the search of flight recorders signal (37.5 KHz acoustic signal). The [State AIA] will inform the [State RCC] the required size of the area where silence has to be maintained.

## **Conclusion**

13 The SOP between the [State RCC] and the [State AIA] would enable SAR operations, and search and locate of aircraft wreckage and flight recorders, respectively, to be conducted in an efficient and effective manner.

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<sup>1</sup> Some equipment carried on board a vessel that are suitable for underwater search of aircraft wreckage and/or flight recorders acoustic signal are:

- a. Underwater acoustic signal (37.5 KHz) detector;
- b. Sonardyne Ultra Short BaseLine (USBL) system (37.5 KHz);
- c. side-scan sonar search;
- d. multi-beam sonar search;
- e. autonomous underwater vehicle (AUV) with underwater imaging capability

14 Moving forward, the *[State RCC]* and the *[State AIA]* would continue to review and update the SOP, as and when required.

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Drafted by: The *[State Rescue Coordination Centre (RCC)]* and the *[State Accident Investigation Authority]*

Effective Date: xx xx xx